



BULLETIN

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DIRECTOR'S COLUMN

Henry L. Green

Clarification on Code References

Many questions have been raised regarding references within the Michigan Codes to International Codes. Specifically, the text of the codes refers in some instances to the International Building Code, International Electrical Code, International Mechanical Code, International Plumbing Code or the International Energy Code.

This issue was raised during the rule promulgation process and was addressed by reference within each rule set (R 408.30401, Michigan Building/Residential Code; R408.30901a, Michigan Mechanical Code; and R 408.30701, Michigan Plumbing Code). This information is found in the introduction of each code book and reads as follows:

"All references to the International Building Code, International Residential Code, International Energy Conservation Code, International Electrical Code, International Mechanical Code, and International Plumbing Code mean the Michigan Building Code, Michigan Uniform Energy Code, Michigan Electrical Code, Michigan Mechanical Code, and Michigan Plumbing Code respectively."

The references in the Michigan Codes to the International Fire Code, International Fuel Gas Code, and International Property Maintenance

(Continued on Page 2)

MRC Frost Depths for Accessory Structures

*by Larry Lehman, Assistant Chief
Building Division*

Questions have been raised relative to frost depths for residential accessory structures as identified in R403.1.4 of the 2000 Michigan Residential Code (MRC).

R403.1.4 requires that all exterior footings and foundation systems extend 42" below actual grade, but also provides three exceptions to this prescriptive requirement.

Exception 1: Frost-protected footings constructed in accordance with section R403.3 of the MRC and foundations erected on solid rock need not extend below the frost line. This exception is very clear in its intent.

Exception 2: Footings in detached accessory structures not exceeding 400 square feet or 10 feet in height.

Exception 2 was amended in the Michigan Residential Code to exempt detached accessory structures from the requirements for frost-free foundation systems if the accessory structure does not exceed 400 square feet in area **or** 10 feet in height. If either of these conditions is present frost-free foundations are required. The 10-foot height requirement is established by examining Chapter 2 Definitions, **Height, Building** – The vertical distance from grade plane to the average height of the highest roof surface, thus the average finished ground level to the mid-height between the roof eave and the roof ridge. It should be noted the Michigan Building Code Committee added the exception for accessory structures larger than 400 square feet in area to be consistent with the International Building Code. Previous editions of nationally recognized model codes only exempted accessory structures from frost protection when they were 100 square feet or less in area and 10 feet or less in height, or did not contain an exception.

Exception 3: Allows the building official to modify footing depths where there is evidence of the following conditions:

1. Freezing temperatures.
2. Soil type.
3. Ground water conditions.
4. Snow depth experience.
5. Exposure to the elements.
6. Other specific conditions identified by the building official.

Since the above-mentioned factors will affect frost penetration, the building official may modify frost depths based upon engineering analysis, soil evaluations and local experience. For example, many building officials in the state have allowed foundation systems installed a minimum of 24" below grade where there is evidence of well-graded sands and gravels identified as Group I soils with low frost heave potential by Table 405.1 of the 2000 MRC.

Director's Column, continued...

Code are intended to cite the International Fire Code, International Fuel Gas Code and International Property Maintenance Code respectively.

Modular Ramps in the Michigan Residential Code

by Irvin J. Poke, Chief
Plan Review Division

Section R313.4 "Modular Ramps" provides that ramp systems approved under section 21 of 1972 PA 230 are exempt from the foundation depth requirements of section R403.1.4. Section 21 of the act provides for the approval of construction methods, products and materials that are not addressed in the code. Essentially this section allows the Construction Code Commission to approve alternatives and their specific condition for use throughout the state. This will require the submission of an application for product approval, detailed engineering, calculation and pertinent testing showing compliance with the intent of the code and the fee of \$500.

Questions may be directed to the Plan Review Division at 517/241-9328.

Mechanical Appeals

Act No. 164 of the Public Acts of 2001 amends the State Construction Code Act to provide appeals from local construction boards of appeals and other appeals from decisions of the Bureau relating to the mechanical code to the Board of Mechanical Rules.

Over the years, through the adoption of various laws and codes, the appeals mechanism has not coordinated with the State Construction Code Act. Prior to this change the State Construction Code Commission was required to hear appeals on matters relating to mechanical installations and code. This change will allow the Board of Mechanical Rules to hear appeals and render decisions similar to those currently provided by the State Plumbing Board and Electrical Administrative Board.

Matters relating to mechanical systems will be referred to the Mechanical Board to hear and decide the appeal. The Board is required to meet as a whole and decide the matter in the same manner as the Commission.

Persons aggrieved by a decision of the Board may petition the State Construction Code Commission to review the decision. The Commission on its own discretion may grant the petition and review the decision, if it is determined the appeal involves a question of major significance and that the appellant has substantial merit.

Appeals of the decisions of the Commission may be filed in a court of competent jurisdiction.

Rule Updates

The bureau is in the process of updating several rule sets. The Boiler Committee has finalized their review and the bureau will be submitting draft rules for review by the Legislative Service Bureau (LSB) and the Governor's Office of Regulatory Reform. A public hearing will be scheduled after editing by LSB. The Manufactured Housing Committee continues its work to update rules and expects completion of the review for a public forum mid-year. Elevator rules are also being reviewed with an expectation that committee work be finalized by late spring.

Group R3 Type "B" Dwelling Units and Sleeping Units

by Irvin J. Poke, Chief
Plan Review Division

The Michigan Building Code (MBC) contains new requirements for accessibility in dwelling units. The 2000 edition now requires group R3 dwelling and sleeping units to be accessible. The 1996 edition of the MBC exempted use group R3 in Part 4 Rules section 1103.1(b) from the provisions for accessibility. The 2000 MBC incorporated the Chapter 11 provisions from the ICC 2001 Supplement. The major focus of the provisions in the supplement is consistency with the HUD federal fair housing requirements.

The federal fair housing statute requires accessibility in multiple single-family dwellings and exempts 1 and 2 detached family dwellings. The MBC and the federal fair housing provisions define a multiple single-family dwelling as those with 4 or more dwellings in a single structure. It is critical to note the word structure is used in section 1107.6.3. Therefore, the use of fire walls to divide the structure into buildings, in accordance with section 705, with less than 4 dwellings does not eliminate the requirement for accessible units.

The type "B" dwelling units and sleeping units are specifically defined to meet the federal fair housing requirement. For group R3 all dwelling units are required to be type "B" where there are 4 or more units in a structure. Refer to section 1107.6.3. However, there are general exceptions that allow for the reduction of type "B" units in section 1107.7. Careful note should be taken that this section states the number of type "B" units "may be reduced," and that section 1107.7.1.1 clearly intends that type "B" units be provided on at least one story.

In conclusion, both the design professional and the code official must realize that the code intends that type "B" units be provided in group R3 structures. When applying the provisions and exceptions, the code must be carefully read. All definitions must be applied, with a special note that in the new codes, defined terms are not printed in italics, as was the convention in the BOCA codes.

Questions may be directed to the Plan Review Division at 517/241-9328.

BULLETIN

BUREAU OF
CONSTRUCTION
CODES

MICHIGAN DEPARTMENT
OF CONSUMER &
INDUSTRY SERVICES

The BULLETIN is a quarterly publication of the Bureau of Construction Codes within the Michigan Department of Consumer & Industry Services. The BULLETIN is published for the information of the 60,000 plumbers, electricians, mechanical contractors, boiler and elevator licensees, plan reviewers, building officials, inspector registrants, manufactured home communities, installer/servicers, and retailers throughout the state.

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A Time to Remember Why There is a Boiler Law

by Robert J. Aben, Jr., Chief
Boiler Division

It may seem unreasonable to compare the boiler technology of the 1800's with that of today but I do so to make a point. The development of boiler laws resulted from yesterday's technology. During that time period, vessels were built to unknown standards resulting in catastrophic failure on an average of one every four days. These failures resulted in 50,000 deaths a year. Boiler explosions happened so often and were so misunderstood they were considered an act of God. Only the most spectacular made front-page news as was the case with the catastrophic explosion nearly 140 years ago that killed 1,500 people. For individuals in the boiler industry, these were tough lessons; however, they paved the way for future standards. Today, Michigan boiler rules are continually updated to the latest national standards to allow boiler manufacturers and installers to use the latest advancements in technology. These advancements benefit the citizens of Michigan by providing safe and efficient equipment. In addition, boiler inspections are conducted to assure safe operation of the equipment.

Scheduled Board Meetings

MEETING	DATE	TIME	LOCATION
Board of Mechanical Rules	Feb. 27	9:00 a.m.	Okemos-Conf. Room 3
Construction Code Commission	Mar. 6	9:30 a.m.	Okemos-Conf. Room 3
Barrier Free Design Board	Mar. 8	9:30 a.m.	Okemos-Conf. Room 1
Board of Boiler Rules	Mar. 12	9:30 a.m.	Okemos-Conf. Room 1
Manufactured Housing Commission	Mar. 20	10:00 a.m.	Okemos-Conf. Room 3
State Plumbing Board	Mar. 26	10:00 a.m.	Okemos-Conf. Room 2
Elevator Safety Board	Mar. 29	9:30 a.m.	Okemos-Conf. Room 3
Electrical Administrative Board	Apr. 19	9:30 a.m.	Okemos-Conf. Room 1
Board of Mechanical Rules	Apr. 24	9:00 a.m.	Okemos-Conf. Room 3
State Plumbing Board	Apr. 24	10:00 a.m.	Okemos-Conf. Room 2
Construction Code Commission	May 1	9:30 a.m.	Okemos-Conf. Room 3
Manufactured Housing Commission	May 8	10:00 a.m.	Okemos-Conf. Room 3
Barrier Free Design Board	May 10	9:30 a.m.	Okemos-Conf. Room 1

Okemos - 2501 Woodlake Circle, Okemos

License Exam Schedule

EXAM	DATE	LOCATION	DEADLINE
Master & Journey Plumber Exam	March 27	East Lansing	March 8
Boiler National Board Exam	June 5/6	Okemos	May 5
Boiler Installer/Repairer Exam	June 5/6	Okemos	May 5
Master & Journey Plumber Exam	June 5	East Lansing	May 17
Mechanical Contractor Exam	June 12	Lansing	May 15
Elevator Contractor & Certificate-of-Competency Exam	March 29	Okemos	March 8
Elevator Journeyperson Exam	April 17	Okemos	March 29

Dates and locations are subject to change.

Recruitment of State Boiler and Elevator Inspectors

The bureau is currently recruiting applicants for Boiler and Elevator Inspectors. While a couple of current vacancies may be filled before this bulletin is published, the bureau continues to recruit due to the shortage of applicants in these areas. These positions conduct inspections within a geographical location in the state. The salary for the positions is \$46,945 and includes a full range of benefits.

If you are interested in applying for a vacancy please provide a resume along with a copy of either your Certificate of Compliance (Elevator) or National Board Commission (Boiler) and forward to Beth Aben, Bureau of Construction Codes, P.O. Box 30254, Lansing, MI 48909.

Discharge Valves for Sewage Pumps or Ejectors

by Robert G. Konyndyk, Chief
Plumbing Division

The Plumbing Division has recently published Technical Bulletin #39 to insure similarity between the Michigan Plumbing Code and the Michigan Residential Code. The issue relates to gate valves not being required on the discharge side of a pump or ejector in one- and two-family dwellings.

The Michigan Plumbing Code in section 712.2 requires a full open valve located on the discharge side of the check valve in the pump or ejector discharge piping. However, the sections exception addressing one- and two-family dwellings, only requires a check valve to be installed. The Michigan Residential Code in section P3007.1 requires a check valve and a gate valve located on the discharge side of the check valve be installed in the pump or ejector discharge piping. The residential code is far more restrictive in requiring a gate valve for maintained work to be performed on the residential pump.

The State of Michigan has not required the gate valves in former rules or past plumbing codes. The valve requirement is unwarranted due to a smaller pump or ejector waste volumes in the residential piping as recognized in the Michigan Plumbing Code.

The technical bulletin in its conclusion states a gate valve in one- and two-family dwellings will not be required on the discharge side of a pump or ejector.

Technical bulletins are available on the bureau's web site at www.cis.state.mi.us/bcc for greater details.

Bureau Directory

**Department of Consumer & Industry Services
Bureau of Construction Codes**

P.O. Box 30254 (Codes: general correspondence)
P.O. Box 30255 (Codes: permits, licenses, and other documents containing payments)
P.O. Box 30222 (Office of Local Government and Consumer Services)
P.O. Box 30703 (Manufactured Housing)
P.O. Box 30704 (Subdivision Control/Survey and Remonumentation Section)
Lansing, Michigan 48909
Fax Numbers: Administration - (517) 241-9570
Codes - (517) 241-9308
Office of Local Government and Consumer Services - (517) 241-6371
Manufactured Housing and Subdivision Control - (517) 241-6301
Web site: www.cis.state.mi.us/bcc

Administration (517) 241-9302

Office of the Bureau Director and Deputy Directors; legislation; rule promulgation; budget oversight; web development/updates; Construction Code Commission.

Office of Local Government and Consumer Services (517) 241-9347

Review of applications from local units of government to locally enforce state building, electrical, mechanical, and/or plumbing codes; complaints regarding local code enforcement, electricians, mechanical contractors, plumbers, and barrier free design requirements; complaints against manufactured housing communities, installer/servicers, retailers, and manufacturers; manufactured housing community and retailer audits; manufactured housing community ordinance and variance request reviews; inspector registration, training and educational requirements; instructor approvals for training and education.

Office of Management Services (517) 241-9313

Building, electrical, mechanical, and plumbing permits; electrical, mechanical, and plumbing license renewals; purchase of code books; administers statewide program of monumenting and remonumenting the original U.S. government public land survey property controlling corners.

Boiler Division (517) 241-9334

Code questions; boiler installers, inspectors, and repairers licenses; boiler permits and inspections; complaints and reporting of boiler accidents; boiler invoices; purchase of boiler code books; Board of Boiler Rules.

Building Division (517) 241-9317

Code questions — i.e., residential, commercial, foundations, drywall, roofing, footings and foundations, snow loads, demolition, etc.; school construction inspections; building permit questions; building inspections; certificates of occupancy; manufactured housing community pre-licensing inspections.

Electrical Division (517) 241-9320

Code questions; electrical examinations and licenses; apprenticeship registration; electrical inspections; Electrical Administrative Board.

Elevator Division (517) 241-9337

Code questions; elevator examinations and licenses; elevator permits and inspections; purchase of elevator code books; complaints and reporting of elevator accidents; Elevator Safety Board.

Manufactured Housing and Subdivision Control Division

Manufactured Housing Program (517) 241-6300

Manufactured housing questions; Manufactured Housing Commission.

Subdivision Control Program (517) 241-6300

General questions; ensure orderly division of land; conduct final reviews of plat maps.

Mechanical Division (517) 241-9325

Code questions — i.e., furnaces, HVAC (heating, and air conditioning), duct work, solar heating, refrigeration, underground tanks; Mechanical Contractor examinations and licensing; mechanical inspections; Board of Mechanical Rules.

Plan Review/Barrier Free Design Division

Plan Review (517) 241-9328

Plan review status, signature and seal requirements for plans; premanufactured construction requirements and premanufactured unit labels; manufactured housing community construction plans and permit approvals.

Barrier Free Design (517) 241-9300

Barrier free design questions; exception applications; Barrier Free Design Board.

Plumbing Division (517) 241-9330

Code questions — i.e., plumbing fixtures, water distribution, sanitary and storm lines; plumbing examination and licensing; apprenticeship registration; State Plumbing Board.

Office Locations

Administration, Office of Management Services, Boiler, Building, Electrical, Elevator, Mechanical, Plan Review/Barrier Free Design, and Plumbing Divisions are located at 2501 Woodlake Circle, Okemos.

Manufactured Housing and Subdivision Control Division and Office of Local Government and Consumer Services are located at **6546 Mercantile Way, Lansing.**

Permits

by Calvin W. Rogler, Chief
Elevator Division

This is to remind all licensed elevator contractors and journeypersons that **prior** to any installation and/or **alteration** work on any type of elevating device an approved elevator permit must be obtained from the Elevator Safety Division. Elevators must be inspected by a general elevator inspector **prior** to placing it back into service. Following are some of the rules which would apply to these situations:

Rule 408.8691 of the Michigan Elevator Laws and Rules lists alterations which require a permit. Alteration permits are also required for any alteration that is not an exact replacement of a part.

Act 227 of the Public Acts of 1967, Rule 408.815 Sec. 15. (1) states, in part, "a person, firm or corporation shall not install or alter an elevator without first having obtained a permit therefor from the department. A permit shall be issued only to a person, firm or corporation licensed by the director as an elevator contractor." **It is the policy of the Elevator Safety Division to require an approved elevator permit or a copy be posted on the job site before any work begins, to be viewed by authorized personnel.**

In case of emergency alterations, a copy of the permit application may be posted on the job site before work begins, after receipt of verbal approval from the division. The original application must be mailed to this office along with the permit fee within 72 hours.

Rule 408.8133 of the Michigan Elevator Laws and Rules states: "A new, altered, or relocated elevator **shall not be placed into service until it has been inspected by, and tested in the presence of, a general inspector**, except as provided in section 15 of the act."

Failure to comply with the Act and Rules may result in the following:

1. Seal an elevator out of service in accordance with the rules promulgated by the department.
2. Elevator contractor and/or journeyperson license **may be suspended or revoked** by the director.
3. A person, firm, or corporation who violates a provision of this act or a rule

may be fined or imprisoned.

If after reviewing the code you are not sure whether a permit is required for a project, questions may be directed to the Elevator Safety Division at (517) 241-9337.

Q's and A's Regarding the 2002 Michigan Electrical Code Adoption

by Stella L. Morris, Chief
Electrical Division

Q: When will the 2002 Michigan Electrical Code be adopted?

A: The first process in the adoption of the code is the appointment of the rules committee, followed by meetings of the committee to review the code. The committee has been appointed and is in the process of reviewing the 2002 code for Michigan adoption. Watch the bureau web site for additional information on the code adoption process at www.cis.state.mi.us/bcc.

Q: When will the code update class be required?

A: Code update classes (15 hours) are required no later than one year after the adoption of the code.

Q: When will code course approval applications be approved?

A: Upon adoption of the 2002 Michigan Electrical Code (Part 8 Rules, Incorporating the 2002 NEC). All submissions shall identify the **code** as the 2002 Michigan Electrical Code.

Q: Will examinations on the code be based on the 2002 code starting in January?

A: No, the test will change **after** the code adoption to reflect any changes between the 1999 and the 2002 code.

Q: Is an update class required for the 2000 Michigan Residential Code?

A: No, not at this time.

If you have additional questions regarding the 2002 Michigan Electrical Code, please call the Electrical Division at 517/241-9320.

Find us at www.cis.state.mi.us/bcc

Manufactured Home Roof Loads

by Richard VanderMolen, Chief
Manufactured Housing and Subdivision Control
Division

With the advent of winter comes increasing awareness of the effect of snow on manufactured homes sited in Michigan.

Manufactured homes are built to federal standards entitled "Part 3280 – Manufactured Home Construction and Safety Standards". Included in the standards at 3280.305 are requirements for the load bearing capacity of manufactured home roofs. The United States is divided into three zones – a north zone where the load bearing capacity is set at 40 pounds per square inch (psi), a middle zone where the capacity is 30 psi, and a south zone of 20 psi. Michigan is divided between the middle and south zones.

Michigan's Manufactured Housing Commission General Rules also speak to roof loads. Rule 185(2) requires all new or pre-owned manufactured homes brought into or sold in Michigan to be sited in compliance with the federal roof load standard. A manufactured home already sited on July 16, 1998, [the effective date of Rule 185(2)] is not subject to this requirement unless it is moved from its existing site.

Rule 185(3) describes the Michigan dividing line between the south and middle roof zones. The middle zone is north of a line which starts at the waters' edge in Tawas City, follows the center line of M-55 west to the center line of M-115, and then follows the center line of M-115 west to the waters' edge in Frankfort. The south zone is south of that line.

The federal roof load standard preempts local requirements. This was confirmed recently by a federal court which informed a Michigan local government that it could not enforce its roof load standard against manufactured homes.

There are occasions when a heavy snow will cause a roof load in excess of the standard to which a manufactured home was built. A prudent manufactured home owner will be conscious of this possibility and keep the home's roof as clear of snow as possible.

If you have any questions about roof load standards, please don't hesitate to contact me at 517/241-6300.

Wood-Fired Water Heaters/Boilers

by *Tennison B. Barry, Chief
Mechanical Division*

What is a wood-fired water heater? A wood fired water heater is a water heater that uses wood as fuel, and is typically used to heat water for hydronic heating systems. Wood-fired heaters do not build pressure. This equipment is required to be listed and labeled. The Michigan Mechanical Code section 301.4 reads as follows:

"All appliances regulated by this code shall be listed and labeled, unless otherwise approved in accordance with Section 105."

The equipment must also meet all applicable portions of the mechanical code.

What is a wood-fired boiler? A wood-fired boiler is a boiler that uses wood as fuel. The difference between the wood-fired water heater and the wood-fired boiler is that the boiler builds pressure and the water heater does not. A wood-fired boiler must meet the requirements of the Michigan Mechanical Code Section 1001.2 which states as follows:

"Boilers. In addition to the other provisions of the code this article governs the installation, alteration, and repair of water heaters and boilers. The installation of boilers shall be in compliance with provisions of this code and the Michigan Boiler Code."

It is very important to take note of the requirements put forth by the code. As you may be aware there are many wood-fired water heaters and boilers that are either homemade or are made without any listings or labels. These types of equipment should be treated no different than any other equipment.

Questions may be directed to the Mechanical Division at 517/241-9325.

Tips for the Examination Applicants

The Bureau of Construction Codes has conducted an internal review of examination processes to determine where improvements may be made based on best practices. One area of change has been the use of code books. Each candidate may now bring his/her code book to the examination. Books will be reviewed at the beginning and end of each examination to ensure the integrity of the examination is not compromised.

Code books may include index tabs. No other markings will be permitted within the code book. This includes highlighting, underlining or text aides. Margin notes or other notations will not be permitted in code books during the examination process.

Other materials such as extra paper, notes, or programmable calculators will not be permitted into the examination site. Paper will be provided during the examination.

Each applicant should bring at least two sharpened #2 pencils. Silent non-printing calculators and a 1/4" scale are also permitted.

Question regarding appropriate study materials should be directed to the respective division.

Violation of the examination site rules will result in surrendering of the examination and being asked to leave the examination site. The examination will not be graded and the applicant will have been considered as failing the examination.

Each applicant will be provided with specific instructions for the examination when approved to take the exam.

Holiday Closing

State offices will be closed in observance of the following holiday:

February 18 - President's Day

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